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NATIONAL BRUCELLOSIS COMMITTEE

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1966

PROCEEDINGS

UNITED STATES DEPARTMENT OF AGRICULTURE

NATIONAL BRUCELLOSIS COMMITTEE
Sponsored by Livestock Conservation, Inc.

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Mike Bay, Howard S. Obenchain, Irwin Erickson

U. S. LIVESTOCK SANITARY ASSOCIATION: Dr. Jean E. Smith

U. S. PUBLIC HEALTH SERVICE: Dr. James H. Steele, Dr. W. Max Decker

CONTENTS

	<u>Page</u>
Officers of the National Brucellosis Committee	4
Industry Leaders Discuss Brucellosis Procedures and Progress	5
Report of the Subcommittee on Research	6
Human Brucellosis in the United States	8
Informational and Educational Activities	18
The Cooperative State-Federal Brucellosis Eradication Program	20
Your State-Federal Animal Health Officials	32
Proposals by the U. S. Livestock Sanitary Association on Brucellosis Eradication	38
The Complement Fixation Test in Diagnosis of Bovine Brucellosis	42
Recommendations of the National Brucellosis Committee	43
Distinguished Service Plaques Awarded	44
Nominating Committee Report	44

Issued June 1966

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C. A. Manthei
E. A. Schilf
J. H. Steele



Chairman Dr. Sam McNutt (left) discusses brucellosis eradication objectives with Dr. E. A. Schilf, who heads the national effort for the USDA's Agricultural Research Service following Dr. C. K. Mingle's retirement. New additions to the Executive Committee were Dr. Schilf and R. E. Sneddon, who represents the American National Cattle-men's Association.

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National Brucellosis Committee -- 1966 Proceedings

INDUSTRY LEADERS DISCUSS BRUCELLOSIS PROCEDURES AND PROGRESS



"The Market Cattle Identification Program" was the topic of discussion for the panel moderated by Dr. Robert K. Anderson, Professor of Public Health, Veterinary Medicine, University of Minnesota, St. Paul, Minn., (second from left). Panel members were (from left) Forest Lee, President, Nebraska Stock Growers Association, Alliance, Nebraska; Dr. J. E. DeWeese, Assistant State Veterinarian, Marceline, Missouri; and Bob Laramore, cattle producer, market operator, and representative of American National Cattlemen's Association.



"The Urgency of Nationwide Certification" was emphasized by this panel moderated by W. K. Knox, Editor of Hoard's Dairyman, Fort Atkinson, Wisc., (second from left). Participants were (from left) Dr. Clemons E. Kord, State Veterinarian, Nashville, Tenn.; Dr. Marion D. Mitchell, State Veterinarian, Pierre, South Dakota; and Dr. A. A. Erdmann, Chief Veterinarian, State-Federal, Madison, Wisc.

REPORT OF THE SUBCOMMITTEE ON RESEARCH

by
C. A. Manthei, Chairman*

If our report for 1965 was a deviation from those of the past, the report for 1966 is a complete departure from the intended purpose of this Subcommittee. This report is an expression of disappointment by this Subcommittee with the progress made in controlling brucellosis in some areas and eradicating it in others. We believe eradication of brucellosis from cattle and swine in this country could have been in its final stage if all livestock owners, regulatory officials and practicing veterinarians had given these programs their full support. The continuous, unnecessary delay in attaining a modified certified status and eventual brucellosis-free status in all states will eventually result in loss of financial support to finish a job that is practically finished.

Both basic and applied research on brucellosis have declined significantly during the past five years and are at their lowest level in this country since the first decade of this century. This is particularly unfortunate because success in the terminal stages of eradication is dependent to a considerable extent on the continuous development and dissemination of additional information. However, if more research is to be done in this country, it will be necessary to increase financial support to institutes where the qualified personnel are located.

What are the significant factors which have contributed to the decline in research effort. We believe that they are the obvious apathy of many of the influential livestock owners, regulatory officials and practicing veterinarians, as well as a failure to fully and properly utilize the information that has been developed through research. For example, has vaccination of heifer calves with Strain 19 at 4 months of age been practiced to the fullest extent possible? The evidence shows it has not. This is not an impossible or an impractical procedure under most management conditions. We know that vaccination of calves at this early age will produce a serviceable immunity against brucellosis as well as practically eliminate the problem of residual Brucella antibodies which interfere with the accurate interpretation of most serological tests. Recommendations to terminate the seroagglutinin titer tolerance in vaccinated cattle has been given serious consideration for more than a year, because many believe the procedure is not identifying infected animals which are responsible for a significant percentage of the problem herds. Termination of titer tolerance in vaccinated cattle will never be possible if vaccination over the recommended age is continued. Maybe the only reasonable approach is to terminate the titer tolerance and then the only choice would be to vaccinate calves at the recommended youngest age.

*Dr. Manthei is Director of the U. S. Department of Agriculture's National Animal Disease Laboratory at Ames, Iowa. Other members of the Subcommittee are: Robert K. Anderson, I. H. Borts, Norman B. McCullough, and S. H. McNutt.

Many new ideas have been incorporated into our diagnostic tests during the past 15 years. Most of them improved our diagnostic capabilities for identifying infected animals but probably their greatest value was to sooth our troubled conscience for condemning man-made vaccinal reactors, a significant percentage of which were not infected. It is about time we consider developing and using methods to eliminate infected animals and not just reactors if we intend to do more than deceive ourselves about the meaning of brucellosis-free areas. However, let us not be misled that this can be accomplished by the introduction of new panaceas from time to time. Panaceas do little more than create hopeful enthusiasm for another easy way of solving a difficult problem.

The complement fixation test or other supplemental tests, if properly conducted by qualified personnel using standard reagents and techniques, can be valuable adjuncts in detecting the infected animals when making epidemiological investigations of problem herds. Continuation of cooperative efforts to standardize the complement fixation test and to compare results by competent laboratories should be encouraged.

Eradication of brucellosis can be accomplished only by vigorously applying the facts developed by research and by experience. Maybe it is time to reevaluate the facts and then decide to use those that will contribute most toward the eradication of brucellosis. Although the incidence of bovine brucellosis is low and losses are economically unimportant now, it is unlikely that these conditions will improve or even remain static unless the brucellosis program continues to progress toward the ultimate goal of eradication.

The report on the progress of research by the Subcommittee will be very short for two reasons. First, two papers will follow which should provide some interesting findings on the effectiveness of the complement-fixation test and the card test in diagnosing bovine brucellosis. Second, the immunological results of vaccinating heifers less than 4 months of age will not be available until later this year.

The limited research currently in progress can be categorized in the broad areas of diagnosis and immunology. Information is constantly being developed to improve the characterization of *Brucella* organisms, which adds to our capability of making more accurate diagnoses and of understanding new outbreaks of brucellosis. Efforts are also being made to isolate and characterize immunogenic fractions of Brucella and a virulent Brucella that can be used to prepare serviceable but innocuous vaccines. These products have not been used extensively enough to evaluate their practical or economical effectiveness under field conditions.

HUMAN BRUCELLOSIS IN THE UNITED STATES

1965

James H. Steele, D.V.M., M.P.H., Chairman
Public Health Subcommittee*

National Brucellosis Committee

Introduction

During 1965 the States reported 257 cases of brucellosis to the Communicable Disease Center. This is a 37% reduction from the 411 cases reported in 1964. The downward trend in numbers of cases that began in 1947 leveled off at about 400 cases during years 1962-63-64, has resumed its downward course. The cause of this amazing decline in cases is no doubt a result of the national brucellosis control program in livestock. No one source of infection, occupational groups, or geographic region accounts for the reduction in cases. The States have furnished epidemiological case histories on 182 of the 257 reported cases.

Geographic and Temporal Distribution - Table I and Figures 1, 2, 3, 4

Fourteen States did not report any cases of brucellosis in 1965. Fifteen States reported more cases in 1965 than in 1964. Twenty-three States had fewer cases and twelve States had no change in the number of cases. Arkansas reported 10 cases and had the largest increase in cases, 4 more than in the previous year. The largest decreases in cases occurred in Iowa, from 114 in 1964 to 78 last year; in Texas, 35 vs. 7 cases; and in Utah, where the number of cases reported dropped from 26 to 0. Utah was certified as brucellosis free in 1964. The pleasing decline in reported cases has occurred in all parts of the Nation with the exception of New England and the six States of this area together reported only 6 cases.

The 1965 seasonal distribution of cases (Figure 5), plotted by month of report to the Communicable Disease Center, is similar to the 10-year average for the period 1955-64. In both curves the number of cases is low in January and gradually increases until a high is reached in May. Cases plateau at this level for the rest of the summer and drop, beginning in August or September, to the seasons lowest number in October or November and then increase again during December.

These data on cases by date of report have been compared to those cases for which we have received detailed surveillance forms which show the time of onset of illness and the agreement between month of report and month of onset of illness has been good. Evidently most cases are reported during the month in which the diagnosis is made. This supposition is enforced

*Dr. Steele is Chief of the Veterinary Public Health Section, Communicable Disease Center, Atlanta, Georgia 30333. Other members of Subcommittee are: Robert Barr, W. M. Decker, Stanley Hendricks, S. P. Leinbach.

by the fact that almost all diagnoses of brucellosis are supported by laboratory studies and the results of these tests are available to most State Health Departments, thus facilitating reporting.

Age and Sex Distribution - Table II

As in past years, brucellosis is a disease that predominantly affects adult males; 164 of 182 cases (90%) were in males and 138 of the 164 male cases (84%) were between 20 and 60 years of age. This is the age group of the working force of the country and is the population at greatest risk to brucellosis in the stock raising and meat packing industries. There is no meaningful age grouping in the female cases.

Occupational Distribution and Sources of Infection - Table 3 and 4

In 1965, 82 of 182 cases (45%) were in packing house workers. This percentage has remained fairly constant since 1960 when it was 40% of the total. Forty-three of these 82 cases were in persons whose most probable source of infection was swine and 27 other cases were reported from this group in which cattle or swine were the most likely source of infection. Cattle were believed to be responsible for only 6 cases in packing house workers.

This is in contrast to farmers who reported only 4 cases as due to swine contact, 13 to either cattle or swine and 13 to cattle alone. It appears that cattle are the most important source of infection to this occupational group as opposed to swine for packing house workers.

Veterinarians, as usual, continued to report a disproportionate number of cases. The nine new cases reported in this occupational group in 1965 continued at about the same level, 5% of the total, as in previous years.

Discussion

At this point in the report the factors that are responsible for the precipitous drop in cases from 1964 to 1965 should be defined and discussed. From the available data it has not been possible to find a single factor such as geographic area, time of year, age or sex of patients, or occupation in which marked change has taken place that would explain the reduction in cases. While three States, Texas, Utah and Iowa account for 90 of the 154 fewer cases, the reduction has been general throughout all parts of the country (Figure 2). Distribution of cases in time as well as age and sex is substantially the same as in previous years, only the numbers are smaller. The same observations are true by occupational categories and sources of infection. The most feasible explanation is that the fight against brucellosis has received new impetus from the swine validated brucellosis-free herd program. Continued progress will require increased efforts by livestock and Public Health agencies. Thorough surveillance of human brucellosis that will determine the source of infection of each case must be developed by the States. The facilities of the Communicable Disease Center stand ready to assist in determining the sources of cases in every way available to us.

The goal of eradication of brucellosis, that many people did not think possible in our times, is now rapidly becoming a probability. It now appears that human brucellosis will disappear in the next decade, parallel to the reduction of infection in animals.

Table 1
Reported Human Brucellosis
By Year and State 1960 - 1965

STATE	1960	1961	1962	1963	1964	1965†
Alabama	16	2	7	5	4	2
Alaska	—	1	2	—	—	1
Arizona	* 3	3	6	4	2	3
Arkansas	9	19	* 11	9	6	10
California	29	20	* 28	19	21	15
Colorado	2	3	—	—	—	1
Connecticut	* 2	4	2	—	—	—
Delaware	* —	—	—	—	—	—
Dist. of Columbia	—	—	1	—	—	—
Florida	3	10	7	4	5	3
Georgia	* 5	14	14	17	16	8
Hawaii	—	1	1	2	—	2
Idaho	* 3	—	1	1	2	—
Illinois	74	59	57	26	* 26	18
Indiana	* 9	5	5	5	1	3
Iowa	308	219	105	155	114	78
Kansas	48	58	22	* 8	6	4
Kentucky	6	2	1	* 4	6	1
Louisiana	14	13	10	10	5	4
Maine	* 1	—	—	** 1	—	1
Maryland	* 1	1	2	—	—	—
Massachusetts	* 1	2	1	—	2	3
Michigan	* 5	9	6	6	6	1
Minnesota	* 15	19	14	11	10	8
Mississippi	9	11	2	2	3	1
Missouri	8	1	4	* 14	10	13
Montana	3	3	1	1	* —	—
Nebraska	20	32	15	6	13	5
Nevada	* 1	—	—	—	—	—
New Hampshire	* —	** —	1	—	—	—
New Jersey	* 3	2	1	1	—	—
New Mexico	* 1	2	—	1	1	—
New York	* 9	11	5	9	5	5
North Carolina	* 4	8	—	6	3	5
North Dakota	9	2	2	1	2	2
Ohio	4	4	1	—	* 5	—
Oklahoma	5	11	7	5	8	9
Oregon	* 3	2	2	3	2	1
Pennsylvania	* 6	4	2	3	4	5
Rhode Island	* 1	—	—	—	** —	1
South Carolina	1	—	* —	—	—	—
South Dakota	26	18	15	12	22	11
Tennessee	* 10	13	10	10	7	2
Texas	22	14	10	16	35	7
Utah	* 12	7	5	5	** 26	—
Vermont	* —	1	1	1	—	1
Virginia	34	18	* 13	12	21	10
Washington	* —	3	—	—	—	—
West Virginia	* —	—	—	—	—	2
Wisconsin	* 5	3	8	11	12	10
Wyoming	—	2	1	1	—	1
TOTALS	750	636	409	407	411	257†

*Modified Certified Brucellosis States.

**Certified Brucellosis-free area.

†Provisional.

Source: National Morbidity Reports.

Table 2
Cases of Brucellosis by Age Group and Sex
United States, 1965*

Age Group	Male	Female	Total
0-4	1		1
5-9	2		2
10-14	4		4
15-19	3	2	5
20-24	19	1	20
25-29	27	1	28
30-34	22	1	23
35-39	18	3	21
40-44	20		20
45-49	13	1	14
50-54	10	1	11
55-59	9	1	10
60-64	3	1	4
65+	6	3	9
Unknown	7	3	10
Total	164	18	182

*Source: Case Reports sent to the CDC Brucellosis Surveillance Unit. Preliminary data.

Table 3
Human Brucellosis Cases in Packing-House Workers
United States, 1958-1965

Year	Total Cases Reviewed	Packing-House Workers	
		Number of Cases	Percent of Total
1958	369	104	28
1959	658	155	24
1960	555	221	40
1961	413	174	42
1962	276	115	42
1963	257	122	47
1964	322	139	43
1965*	182	82	45

*Preliminary data.

Source: Case reports sent to CDC Brucellosis Surveillance Unit.

Table 4
Human Brucellosis Cases - 1965*
Occupation and Probable Source of Infection

Category	Occupation	Probable Source of Infection							Total	Recrudes- cence
		Swine	Cattle	Cattle & Swine	Sheep or Goats	Raw Milk	Accidents	Other & Unknown		
Animal Industry Employees	Packing House	43	6	27				6	82	4
	Rendering Plant								-	-
	Stockyard		1						1	
Farmers	Livestock	4	7	13			1		25	4
	Dairy		6						6	-
	Unspecified							3	3	1
Other	Housewives	2	1			4		4	11	1
	Children	1	2	1	1	3		2	10	1
	Veterinarians			5			4		9	1
	Other	5	4	7		3	3	8	30	7
	Unknown							5	5	-
TOTAL		55	27	53	1	10	8	28	182	19

*Preliminary data

Source: Case reports sent to the CDC Brucellosis Surveillance Unit.

REPORTED HUMAN BRUCELLOSIS UNITED STATES, 1947-1965

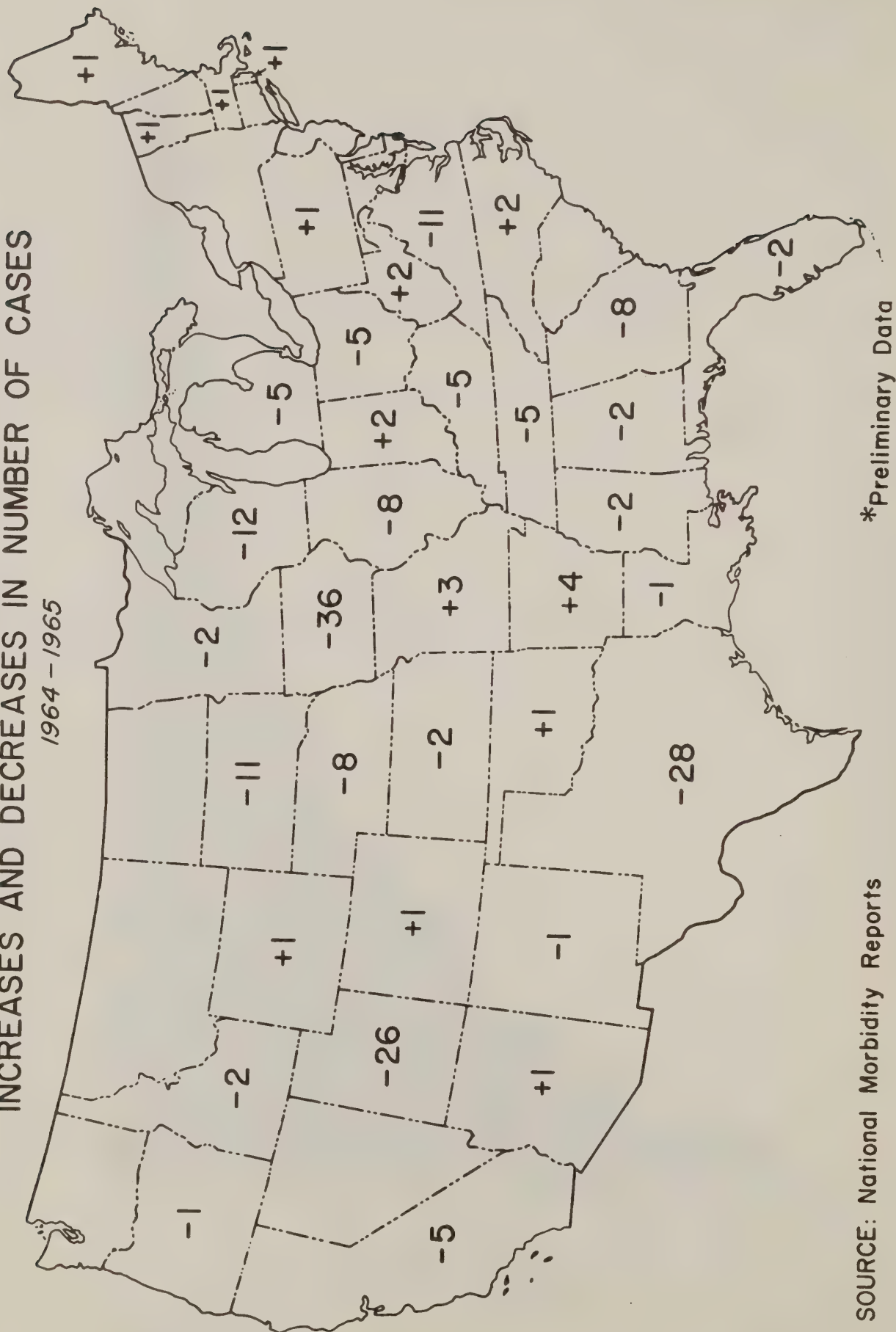


Source: National Morbidity Reports

*Preliminary Data

Figure 1.

REPORTED CASES OF HUMAN BRUCELLOSIS* INCREASES AND DECREASES IN NUMBER OF CASES 1964 - 1965



SOURCE: National Morbidity Reports

Figure 2

REPORTED BRUCELLOSIS CASES

UNITED STATES, 1964

Alaska



Hawaii



Puerto Rico



KEY: NUMBER OF CASES



0



11 - 50



1 - 10



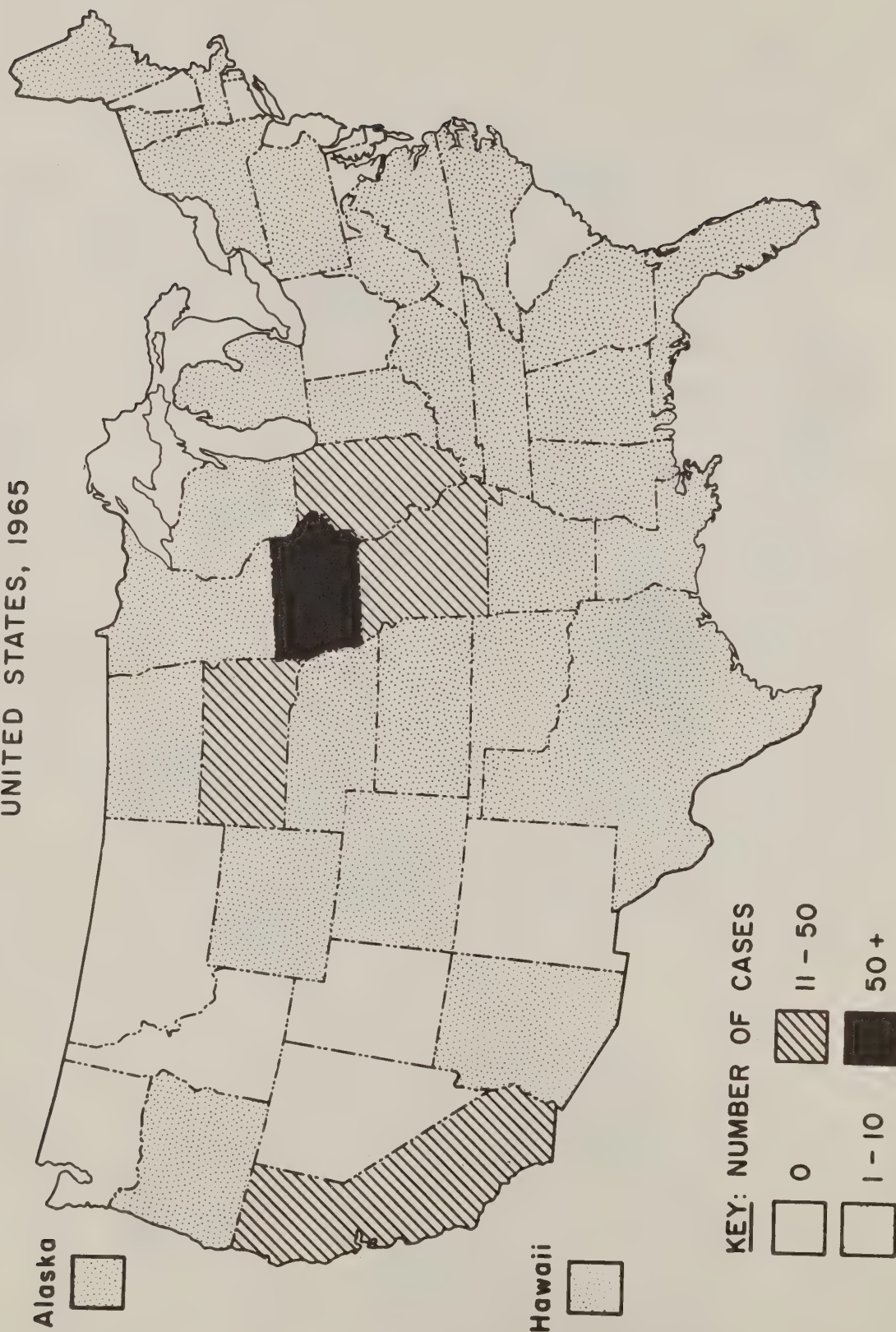
51 +

SOURCE: National Morbidity Reports

Figure 3

REPORTED BRUCELLOSIS CASES

UNITED STATES, 1965

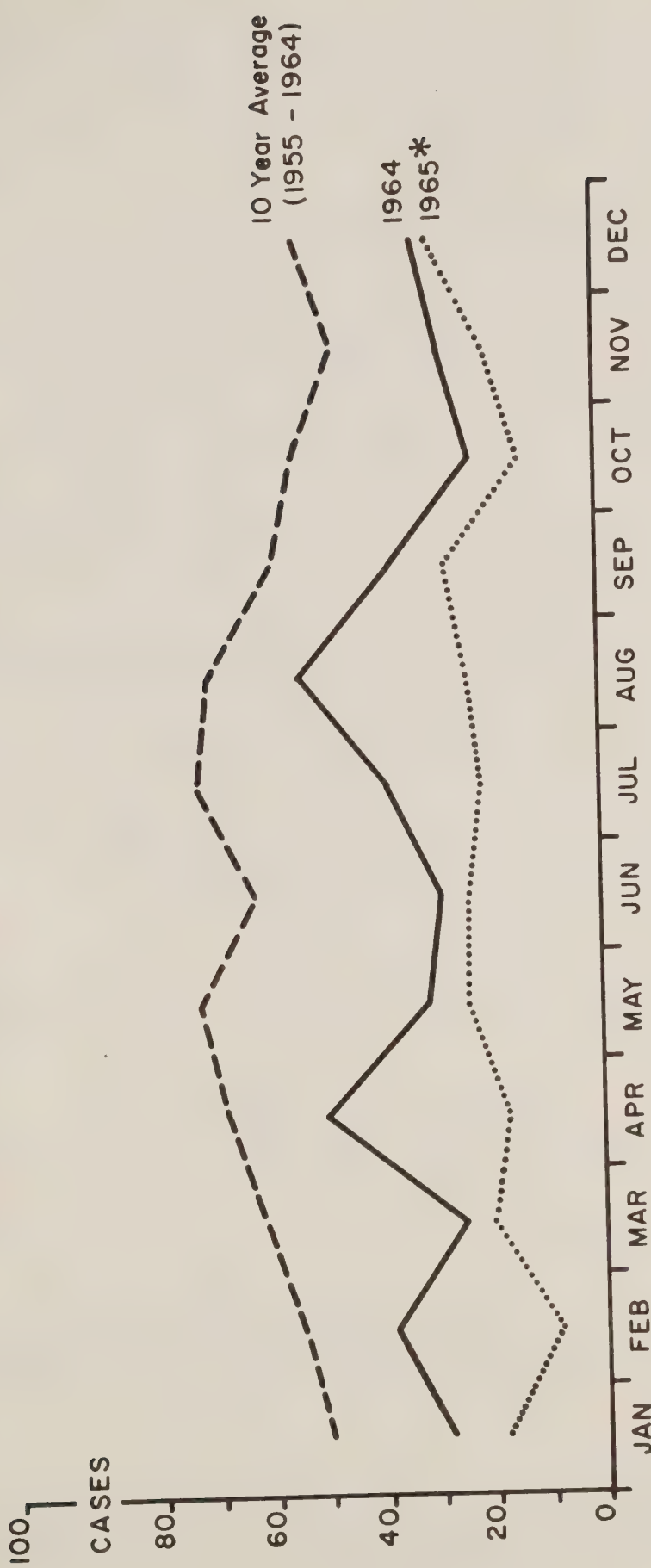


SOURCE: National Morbidity Reports

Preliminary Data

Figure 4

Seasonal Trends of REPORTED HUMAN BRUCELLOSIS



*Preliminary Data

SOURCE: National Morbidity Reports

Figure 5

INFORMATIONAL AND EDUCATIONAL ACTIVITIES,

Subcommittee on Information and Education
of the
National Brucellosis Committee
by
Herman C. Aaberg, Chairman*

This year's informational and educational program emphasized three major needs within the cooperative State-Federal brucellosis eradication effort.

- The need to expand market cattle testing procedures to include all cows not covered by the milk ring test for brucellosis.
- The need to maintain the proficiency of the milk ring testing procedure.
- The need to accelerate the swine validation brucellosis eradication program throughout the Nation.

Significant advancements in the brucellosis eradication effort were given national publicity in the daily press, farm magazines, radio and television media. A partial list of these include:

- Utah Attains a Validated Brucellosis-Free Status.
- Vermont Sets Three Animal Disease Records: First State to be declared hog cholera free, first to attain a validated brucellosis-free status, and first to eradicate these three diseases--hog cholera, swine brucellosis and bovine brucellosis.
- North Dakota Qualifies as a Modified Certified Brucellosis Area.
- Wisconsin; First Midwestern State to Achieve a Certified Brucellosis-Free Status.
- Iowa Qualifies as a Modified Certified Brucellosis Area.
- USDA Issues 1965 National Listing of Brucellosis-Free Swine Herds.
- Progress Report on the Identification and Blood Testing of Market Cattle for Brucellosis.

An informational-educational packet was developed documenting the progress being made in eradicating six major livestock diseases--bovine brucellosis, swine brucellosis, hog cholera, tuberculosis, sheep scabies and screwworms. This included 485 color slide sets with narrations, two information kits

*Mr. Aaberg is Assistant Director, Commodity Division, American Farm Federation. Other members of the committee are: R. E. Burleson, N. J. Post, H. S. Nicol, C. G. Scruggs, and Paul Zillman.

containing literature on brucellosis and hog cholera, and informational publications and visuals on tuberculosis, sheep scabies and screwworms. These will be made available to agricultural extension agents, vocational agricultural teachers and other agricultural leaders involved in animal disease eradication efforts.

Arrangements were made to keep Extension Veterinarians throughout the Nation informed of changes and advancements within the brucellosis eradication effort.

The liaisioning with the Farmers Home Administration continued throughout the year with informational material being distributed to all county offices.

To gain a better understanding and wider acceptance of the rapid card test for swine brucellosis, an exhibit was developed featuring a life size, plastic sow. An internal supply of blood under pressure made it possible to collect a sample of blood from the ear. This exhibit proved to be one of the most popular at the American Veterinary Medical Association's annual meeting in Portland, Oregon last year. A large number of veterinarians participated in collection of blood and conducting the card test.

Other routine informational activities, similar to those reported last year, were continued. These include the construction of exhibits, development of visuals, writing features for the agricultural press, developing and revising publications, and the initiation of programs for radio and television.

A Progress Report

by

E. A. Schilf*

The sustained effort to eradicate brucellosis from the Nation by 1975 is reflected in the accomplishments of the past year. There is no question that the available tests and methods are effective to detect and eliminate Brucella infection. The growing interest to utilize these means in the noncertified areas is encouraging but must be maintained and nurtured to achieve the elimination of brucellosis from the Nation's livestock.

Continued effort in the modified-certified areas to locate the foci of residual infection is evident. An exhaustive search for the source of new outbreaks of brucellosis is conducted in all free areas. These procedures, when diligently applied and followed to conclusion, will assure the success of the program. It is imperative that the available tools be used with maximum efficiency if the job is to be completed quickly and economically.

The basic tools have been proven to be sound, but constant review and appraisal of the results of the present procedures is necessary to keep the program in step with the changes in livestock management and technical knowledge. Field investigations and other special studies are in progress to evaluate a new antigen for a field test on cattle plasma, a new procedure to increase the sensitivity of ring tests for large dairy herds, and new supplemental blood tests to augment the present battery of tests used on samples from problem herds. These projects and others will be of value in maintaining and possibly increasing the rate of progress toward eradication.

Certified Brucellosis-Free Areas

Again, as in 1964, the number of counties achieving Certified Brucellosis-Free status exceeded the number of counties qualifying for initial modified certified status. There were 226 counties established as free areas compared with only 95 new modified-certified counties last year.

In addition to the county statistics, three States--Connecticut, Vermont, and Wisconsin--achieved certified-free status. The success in these States leaves only Massachusetts to complete its testing in the New England area to qualify for free status. This is expected to occur early in 1966. The addition of Wisconsin to the growing number of certified-free States is a notable accomplishment as this is the first major dairy area, ranking sixth in total cattle population, to qualify.

*Dr. Schilf is Senior Staff Veterinarian of Cattle Diseases, Animal Health Division, Agricultural Research Service, USDA, Federal Center Building, Hyattsville, Md.

The recognition by modified-certified States that the goal of eradication has not yet been reached has been extremely rewarding. The emphasis on the necessity of applying all of the resources of the eradication program toward eliminating brucellosis in livestock has proven the effectiveness of the present procedures. While the rapid increase in the number of counties qualifying as free areas cannot be credited to any single factor, epidemiological investigations on infected herds have made an important contribution in these areas.

Modified-Certified Brucellosis Areas

The State of North Dakota was the only one to achieve modified-certified status during the calendar year. Although Iowa had completed the testing requirements for qualification in 1965, the official recognition of this achievement was not made until January 1966. Both of these areas are now concentrating on the remaining infection to eliminate the last reservoirs of brucellosis within their States.

Counting both of these States as certified areas, only 12 States, including Hawaii and Alaska, remain to be certified. At the end of the year, nearly 88 percent of the counties were certified and nearly 18 percent of all counties were designated as certified free. In the 12 noncertified States, 493 of the 862 (57 percent) counties are modified-certified areas. One third of the 369 noncertified counties in these States or 123 are engaged in area testing, while the remaining counties are participating on an individual-herd basis only.

The number of new counties attaining modified-certified status increased over the number certified in 1964. In 1965, 95 counties attained initial certification, compared to 76 in 1964 or an increase of 25 percent. This reversal of the downward trend in number of initially certified areas is indicative of the effort expended in the remaining areas to reduce the incidence of brucellosis through an active program. The sustained effort is continuing to increase the rate of testing and certification of the remaining noncertified areas is continuing.

Brucellosis (Milk) Ring Test

The frequency at which the brucellosis (milk) ring test (BRT) is conducted is an essential consideration in appraising the effectiveness of this surveillance system. The optimum frequency is considered to be four times per year under the present eradication procedures. This year 26 States reported that milk samples are collected for ring test on a quarterly basis. Twenty-two States reported collections on a three times per year schedule, while only two States are still maintaining the semiannual test. This is an increase of 10 States collecting milk samples on quarterly system over 1964.

Other factors are of equal importance to frequency of testing and must be recognized. Many States continue to ignore reactions on bulk tank or composite samples if the cream ring is not significantly darker blue than the skim portion. With the irreversible change toward even larger dairy herds, the dilution factor becomes increasingly important. Any reaction in milk samples from these herds could indicate brucellosis and should be investigated.

Projects on adjustments of ring test sensitivity to compensate for varying herd sizes are under way. The preliminary results of a field study in California indicate that a practical solution for the dilution problem may be near. However, knowledge of the number of lactating animals in the herd is essential if the test procedure is to be adjusted for herd size. This information is not being obtained in the majority of States although the information could be readily estimated if the average volume of milk per farm were divided by the average daily production figure per cow for that area. These data would be available from the dairy processing plant and agricultural statistics and would be a close approximation of herd size.

The details regarding the collecting, handling, and preserving of composite samples at each plant should be reviewed every time samples are collected. The adverse influence of certain preservatives, high temperatures, and prolonged storage on composite samples for ring testing has been reported. The detection of these conditions requires a continuous surveillance of plant procedures. Recently, a preservative was substituted for mercuric chloride in many processing plants which fortunately resulted in a change in color from the usual pink. All indications are that this preservative will cause a high percentage of the suspicious ring tests to give a "false negative" reaction. The effectiveness of this method of surveillance of commercial dairy herds depends upon the recognition of adverse conditions and prompt correction of these deficiencies.

Market Cattle Testing

The Market Cattle Testing (MCT) Program is steadily expanding. The coverage of eligible beef cattle under this surveillance procedure has been instrumental in economically recertifying many range and semirange areas. The number of animals backtagged and blood-sampled under this program have increased tenfold since 1961 and nearly doubled since 1964.

However, much of the increase was due to the rapid expansion in backtagging in primarily dairy areas, and the double coverage on dairy cows already under BRT surveillance has been determined to be an unnecessary financial burden. Results indicate that the BRT is identifying the suspicious herds at the approximate same time MCT reactors are disclosed. Thus, late in 1965 the policy covering blood collections from backtagged animals of the dairy breeds was changed to eliminate the double coverage. This policy is presently under further consideration because in many areas animals of mixed breeding but of dairy type are raised for feeding and beef purposes. The removal of this type of animal from the coverage afforded by MCT may well delay certification in many areas.

The backtagging procedure was not altered because the identification of all slaughter cattle contributes to the eradication effort of bovine tuberculosis as well as bovine brucellosis.

The key to a successful MCT program is, of course, animal identification. If a high percentage of reactors cannot be traced back through multiple transactions to the herd of origin, the program is of little value. Continuous efforts directed toward improvement in animal identification and tracing procedures has been as rewarding as the increase in the number of animals tested.

In modified-certified areas, the tracing of negative animals to specific herds is not necessary as long as the reactors can be traced and the negative animals are credited to the county of origin. A saving of clerical time is thus realized by this provision. However, even greater savings can be obtained in clerical time by recertifying entire States as one area. Two States are now developing recertification records to appraise this system. Using this method, no untoward effects on the eradication program can be foreseen. The recognition of a State as a unit without anniversary dates for each county should alleviate many administrative problems.

The 12 noncertified States are actively participating in the MCT program. During 1965, over 36 percent of the backtags applied were on animals from noncertified States, and over 41 percent of the blood samples were collected from animals from the noncertified States. Of the reactors detected under MCT, over 76 percent were traced to herds in noncertified States, but only 50 percent of infected herds found by MCT were in this area. One reason for not finding a larger percentage of infected herds among the noncertified counties is that reactors disclosed by MCT are not always followed up if the herd of origin is located in a nonarea testing county.

One statistic gained from MCT data is hard to explain. In noncertified areas, tests on infected herds of origin revealed an average of 5.3 reactors on the first test, while in modified-certified areas, the average number of reactors was 9.8 animals per herd. The comparative rate of infection for these two general areas, however, was greatly in favor of the certified areas, where 0.55 percent of the animals tested reacted compared to 2.47 percent in non-certified areas.

Problem-Herd Program

The capabilities for conducting the epidemiologic studies in Brucella-infected herds were increased during the year by training additional field personnel. A 2-week specialized course in problem-herd work was presented at the University of Minnesota for both field personnel and their administrative supervisors. An awareness of the purpose and nature of the training by supervisors was deemed advantageous because of the importance of this program in areas with a low incidence of infection.

The problem-herd program is being reorganized to provide a more direct technical supervision for the epidemiologists with specialized but limited training. Closer contact with other epidemiologists under this system will provide the necessary support to conduct investigations of the more difficult problem herds in greater detail.

Swine Brucellosis

The number of validated brucellosis-free swine herds is continuing to increase but at a slower rate than in previous years. At the end of calendar year 1965, 2,186 herds were enjoying validated status. The increase of only 246 herds during 1965, compared to an increase of 726 during 1964, points out the need for emphasizing the benefits of a validated herd to swine owners.

County validation progressed at a satisfactory pace with 43 new counties attaining this goal. The largest gains were in Nevada with 15 of 17 counties validated and in California with 14 new counties and a total of 48 out of 58 counties now validated. Eight States now have one or more Validated Brucellosis-Free counties.

The development and implementation of a swine brucellosis surveillance procedure to locate suspicious herds are desperately needed. However, several problems must be resolved for a program similar to the MCT plan to be effective. Animal identification systems enabling the tracing to herds of origin must be improved because of the long-distance movement of swine from farm to slaughter, the development of an efficient serologic test on individual swine, and an improved method for blood collection at large slaughter establishments with a high kill capacity.

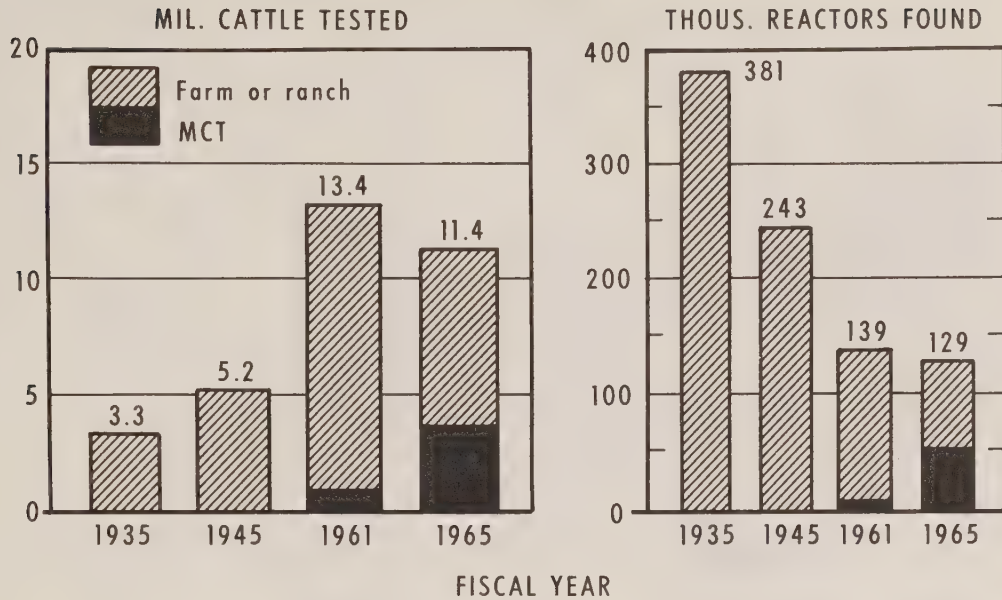
Recent regulations regarding importation of pork products adopted by foreign nations have intensified our interest in solving these problems. A rapid expansion of the swine brucellosis program is imperative if the pork and pork products overseas market is to be protected. State laws and regulations will need revision in most States to provide the necessary framework for administering such a program and should be reviewed for possible amendment.

Surveys, pilot programs, and research projects on the major problems affecting a swine brucellosis surveillance program have been conducted and are to be continued to supplement the activity on swine brucellosis eradication.

Vaccination

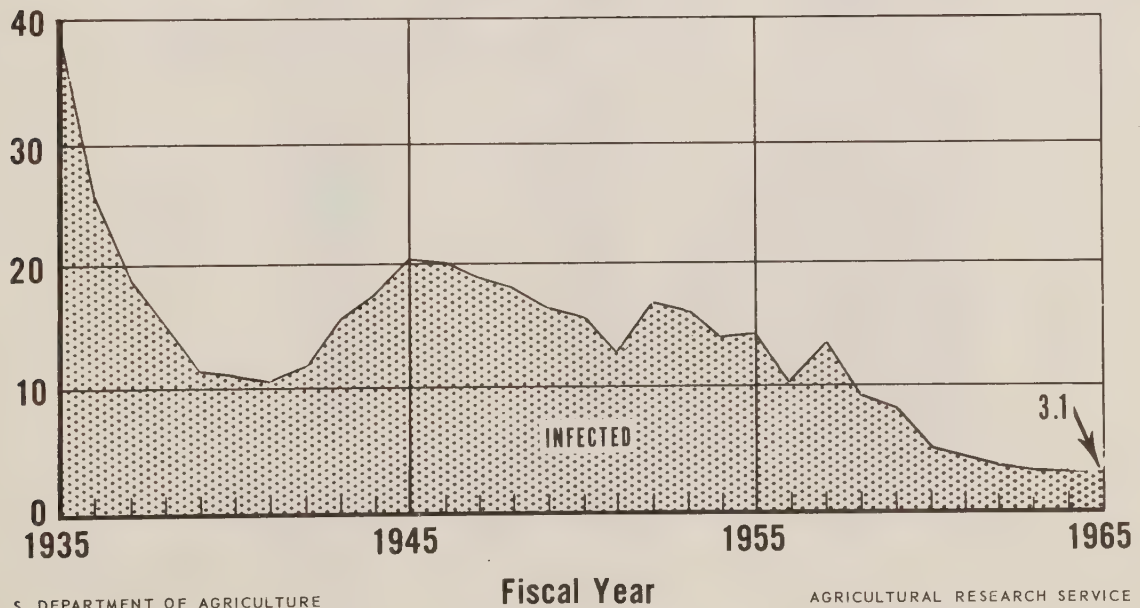
The serologic and bacteriologic findings resulting from problem herd investigations, the marked reduction of brucellosis in most certified areas, and the continued improvement in the surveillance testing procedures have resulted in deemphasizing calf vaccination. This policy is not universal, however, because in all areas where the incidence of brucellosis remains relatively high or the exposure potential remains great from contact with surrounding noncertified areas, vaccination is urged and encouraged.

The deemphasis on vaccination will not have an immediate impact in any area but should eventually lead to an essentially nonvaccinated population in free areas. This is an obligation on the administrators of the brucellosis program to eliminate the losses and costs of brucellosis including vaccination to the livestock industry. Certainly, vaccination on a private basis is not prohibited; but the number of herds needing this protection afforded by vaccination in most modified-certified States represents only a small fraction of the total.

BLOOD TESTING: CATTLE

U. S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

BRUCELLOSIS ERADICATION**BLOOD TESTING: HERDS-LOTS****% OF BLOOD TESTED HERDS-LOTS**

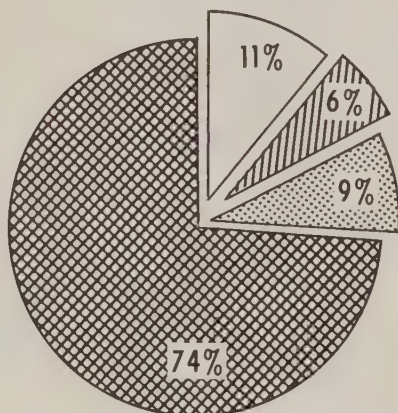
U. S. DEPARTMENT OF AGRICULTURE



AGRICULTURAL RESEARCH SERVICE

COUNTY CERTIFICATION STATUS

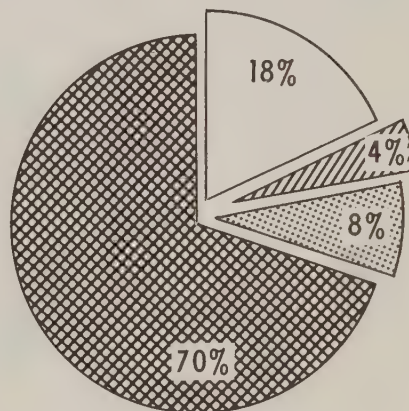
Cooperative State-Federal Brucellosis Eradication Program

DEC. 31, 1964



 **Modified Certified**
 **Area Work in Progress**

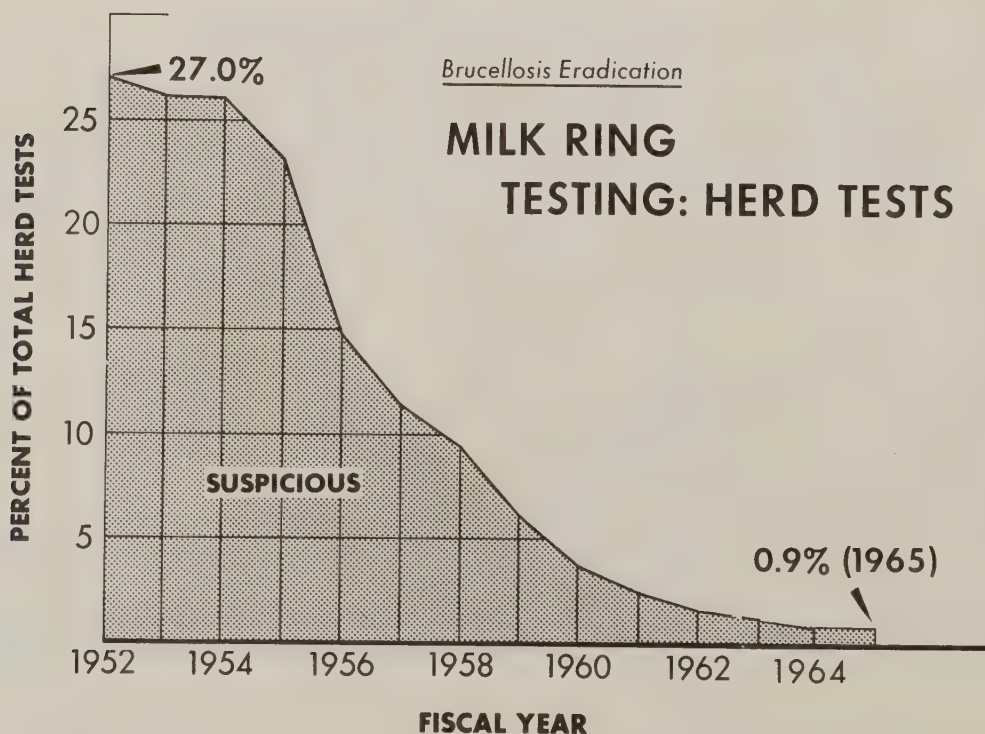
DEC. 31, 1965



 **Certified Free**
 **Individual Herd Participation**

U.S. DEPARTMENT OF AGRICULTURE

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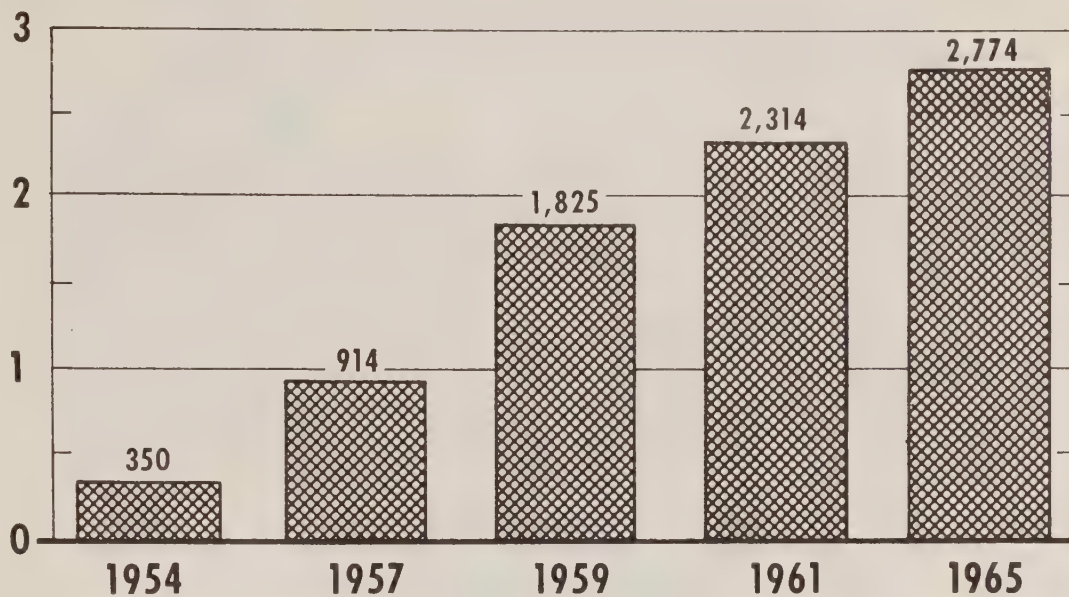
U. S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

CERTIFIED COUNTIES

Cooperative State-Federal Brucellosis Eradication Program

THOUS. COUNTIES



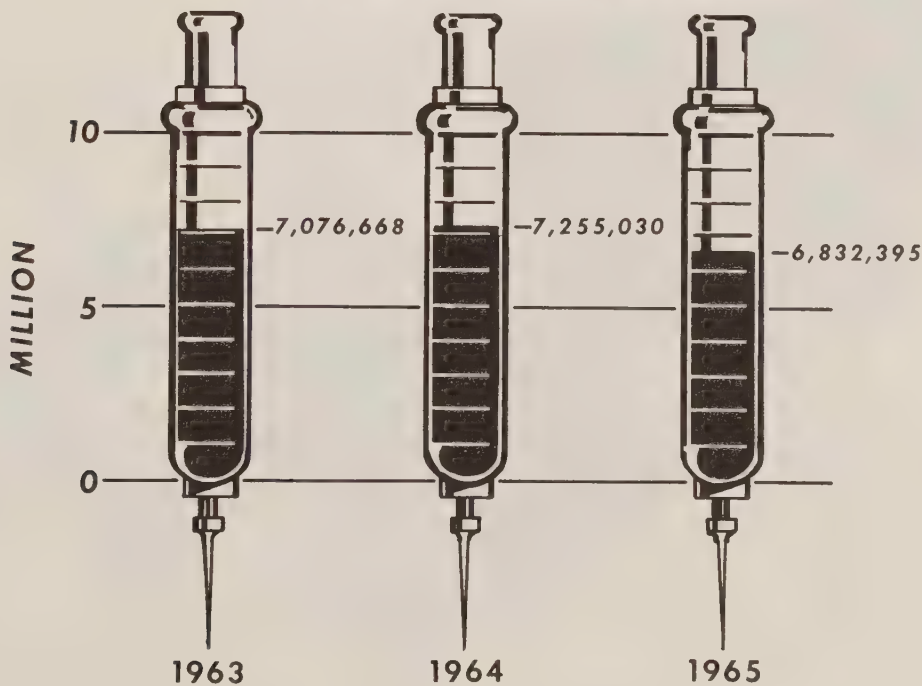
December 31

U. S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

BRUCELLOSIS ERADICATION

CALVES VACCINATED



Fiscal Year

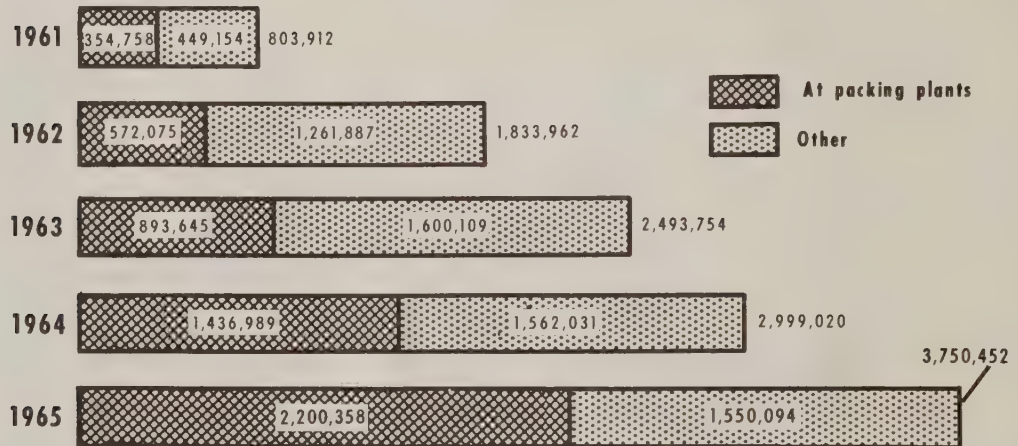
U. S. Department Of Agriculture

Agricultural Research Service

MARKET CATTLE TESTING PROGRAM

Cows Blood Tested

Fiscal Year



U. S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

MCT USED TO CERTIFY COUNTIES IN 28 STATES AND PUERTO RICO

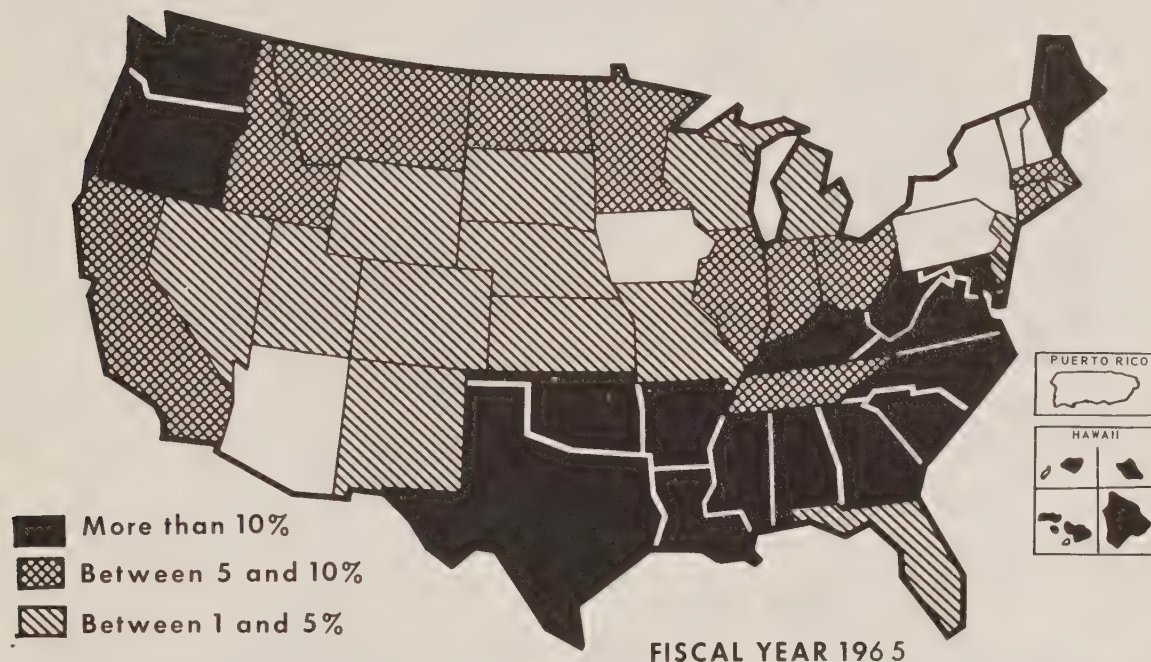
December 31, 1965



U. S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PERCENT OF ADULT COW POPULATION MARKET CATTLE TESTED FOR BRUCELLOSIS

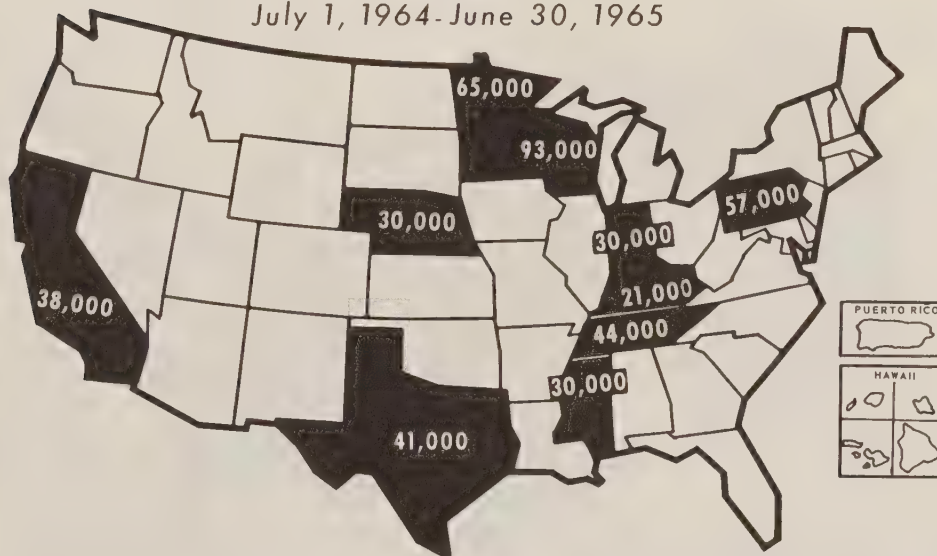


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AGRICULTURAL RESEARCH SERVICE

STATES TESTING MORE THAN 20,000 COWS FROM OTHER STATES

July 1, 1964-June 30, 1965

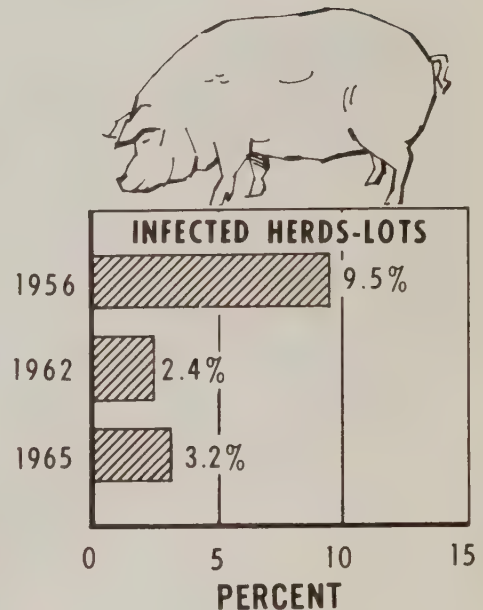
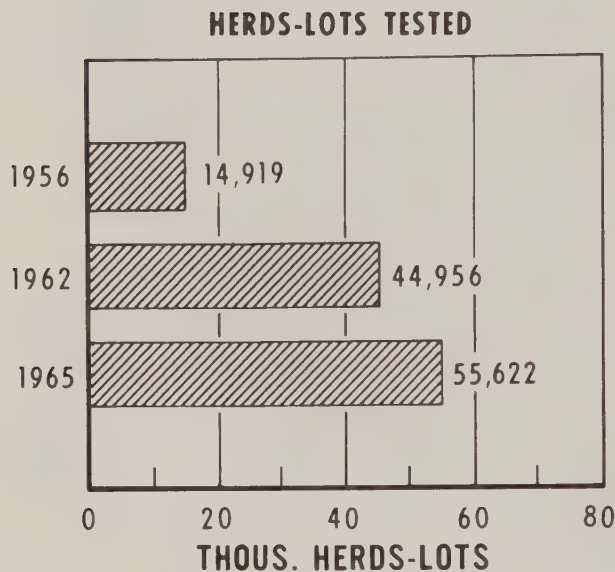


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BRUCELLOSIS ERADICATION

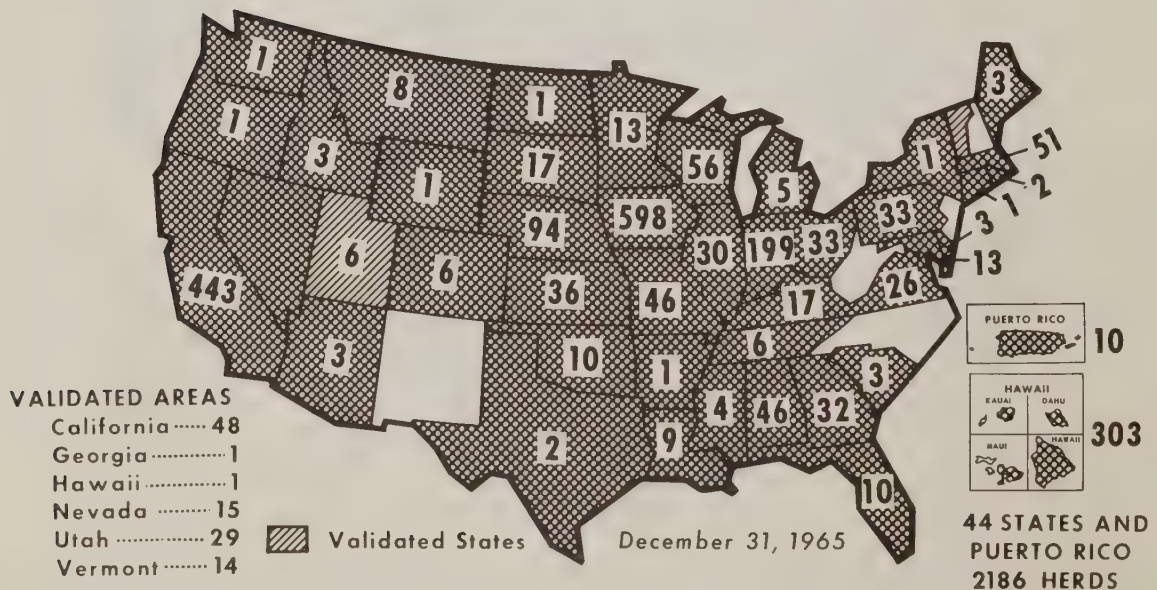
BLOOD TESTING: SWINE



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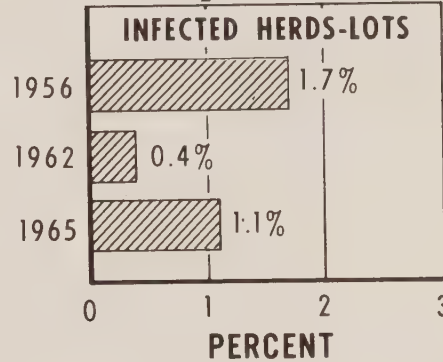
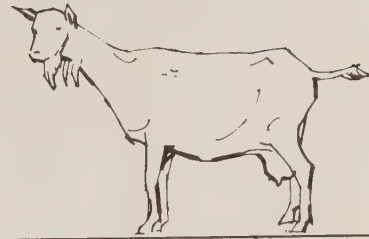
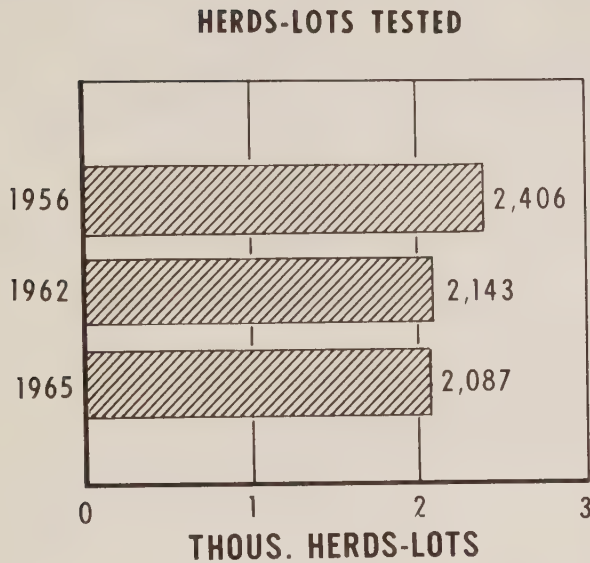
States with Validated Brucellosis-Free Swine Herds



U. S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

BLOOD TESTING: GOATS



U. S. DEPARTMENT OF AGRICULTURE

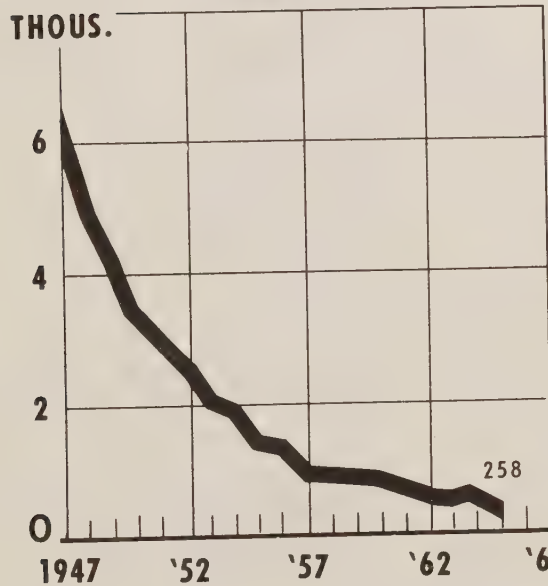
Fiscal Year

AGRICULTURAL RESEARCH SERVICE

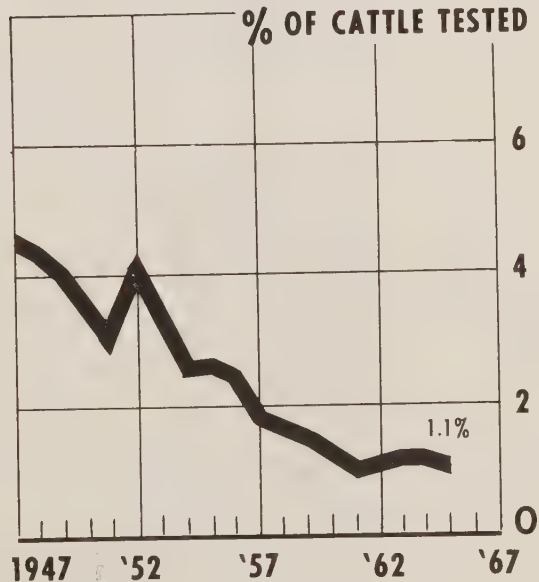
BRUCELLOSIS ERADICATION

BRUCELLOSIS-UNDULANT FEVER

HUMAN CASES



CATTLE INFECTED



**Based on blood tests only*

U.S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

YOUR STATE-FEDERAL ANIMAL HEALTH OFFICIALS

If you desire more detailed information on the brucellosis eradication program in your State, please contact the Federal Veterinarian in Charge, Animal Health Division, or the State Official in Charge of the animal disease program. Their addresses are listed below.

<u>State, Territory, or Country</u>	<u>Federal Veterinarian in Charge</u>	<u>State Official</u>
Alabama	B. N. Lauderdale 401 New Post Office Bldg. Montgomery, Ala. 36104	John G. Milligan P. O. Box 220 Montgomery, Ala. 36101
Alaska	Harold D. White Rooms 60-61, Federal Bldg. Anchorage, Alaska 99501	Fred S. Honsinger P. O. Box 2473 Juneau, Alaska
Arizona	E. R. Mackery P. O. Box 7397 4004 North 7th Street Phoenix, Ariz. 85011	William M. Thompson 1521 W. Jefferson Phoenix, Ariz. 85007
Arkansas	Paul Becton Post Office Box 3548 Room 5506, Federal Bldg. Little Rock, Ark. 72203	R. M. Thomas State Police Headquarters Ground P. O. Box 2821 Little Rock, Ark. 72203
California	J. H. Wommack Room 4506 650 Capitol Ave. Sacramento, Calif. 95814	H. G. Wixom, Chief Division of Animal Industry 1220 N Street Sacramento, Calif. 95814
Colorado	E. S. Cox 13037 Federal Bldg. U. S. Courthouse 1961 Stout St. Denver, Colo. 80202	William C. Tobin Room 420 1525 Sherman Street Denver, Colo. 80203
Connecticut	Walter Ferrall Room 258-262, State Office Bldg. Hartford, Conn. 06115	Jean V. Smith Room 287, State Office Bldg. Hartford, Conn. 06115
Delaware	D. F. Schwindamin Room 3 Agricultural Annex Bldg. Dover, Del. 19901	Robert L. Ricker Delaware Dept. of Poultry and Animal Health Dover, Del. 19901
Florida	J. B. Healy P. O. Box 4129 240 P. O. Bldg. Jacksonville, Fla. 32201	C. L. Campbell P. O. Box 1509 Tallahassee, Fla. 32302

<u>State, Territory, or Country</u>	<u>Federal Veterinarian in Charge</u>	<u>State Official</u>
Georgia	C. J. Mikel Room 410, Bona Allen Bldg. 133 Luckie St., N.W. Atlanta, Ga. 30303	O. D. Dye, Director Veterinary Division Capitol Square Atlanta, Ga. 30334
Hawaii	E. G. Ongert 819-825 Keeaumoki St. Room 304 & 305 Honolulu, Hawaii 96814	Ernest H. Willers State Veterinarian P. O. Box 5425, Pawaa Station Honolulu, Hawaii
Idaho	A. P. Schneider, Director Idaho State-Federal Cooperative Livestock Regulatory Programs 716 Idaho St. Boise, Idaho 83702	A. P. Schneider (Same)
Illinois	Milo Johnson P. O. Box 2149 100 $\frac{1}{2}$ East Washington St. Springfield, Ill. 62701	Paul B. Doby, Superintendent Emmerson Bldg. State Fair Grounds Springfield, Ill. 62701
Indiana	L. R. Barnes 311 W. Washington St., Rm. 210 Indianapolis, Ind. 46204	David L. Smith 801 St. Office Bldg. 100 N. Senate Ave. Indianapolis, Ind. 46204
Iowa (Ames)	C. D. Van Houweling Assistant Director National Animal Disease Lab P.O. Box 70 Ames, Iowa 50011	(None)
Iowa	G. E. Blake 1115 Grand Avenue Des Moines, Iowa 50309	M. E. Pomeroy, Chief Division of Animal Industry and State Veterinarian State House Des Moines, Iowa 50319
Kansas	D. O. Manley P. O. Box 1518 Room 700 Capitol Federal Bldg. Topeka, Kans. 66601	A. G. Pickett Livestock Sanitary Commissioner State Office Bldg. Topeka, Kans. 66612
Kentucky	L. T. Fisher P.O. Box 399 105 $\frac{1}{2}$ St. Clair St. Frankfort, Ky. 40601	R. J. Henshaw, Acting State Veterinarian Capitol Annex Frankfort, Ky. 40601

<u>State, Territory, or Country</u>	<u>Federal Veterinarian in Charge</u>	<u>State Official</u>
Louisiana	A. G. Pass 1755 Florida St. 302 Audubon Bldg. Baton Rouge, La. 70821	F. B. Wheeler P.O. Box 4003 Capitol Station Baton Rouge, La. 70821
Maine	C. W. Wilder 204 Post Office Bldg. Augusta, Maine 04330	Francis G. Buzzell, Director State Office Annex Augusta, Maine 04331
Maryland	J. K. Atwell 510 Hartwick Bldg. 4321 Hartwick Road College Park, Md. 20740	T. A. Ladson, Director Md. Livestock Sanitary Service Symons Hall, Univ. of Maryland College Park, Md. 20740
Massachusetts	E. R. Coon 802 Customhouse Bldg. Boston, Mass. 02109	Edward M. Dwyer, Director Livestock Disease Control 41 Tremont St. Boston, Mass. 02108
Michigan	C. L. Hendee Sixth Floor, Lewis Cass Bldg. Lansing, Mich. 48913	John F. Quinn, State Veterinarian 6th Floor, Lewis Cass Bldg. Lansing, Mich. 48913
Minnesota	D. F. Werring 555 Wabasha St. St. Paul, Minn. 55102	J. G. Flint, Secretary and Executive Officer 1246 University Ave. St. Paul, Minn. 55104
Mississippi	L. J. Pate P.O. Box 1120 590 Milner Bldg. Corner Lamar and Pearl St. Jackson, Miss. 39205	Vernon D. Chadwick P.O. Box 916 Jackson, Miss. 39205
Missouri	L. F. Van Gorder P.O. Box 627 203-205 P.O. Bldg. Jefferson City, Mo. 65102	G. C. Stiles, St. Veterinarian P.O. Box 630 Jefferson Bldg., 13th Floor Jefferson City, Mo. 65102
Montana	J. H. Slack P.O. Box 917 Steamboat Block, 616 Helena Ave. Helena, Mont. 59601	John W. Safford, St. Veterinary Surgeon Livestock Bldg., Capitol Station Helena, Mont. 59601
Nebraska	E. H. Nordstrom P.O. Box 1866 303 Farmers Mutual Ins. Bldg. 1220 "J" St. Lincoln, Nebr. 68501	Lee A. Wilcox Room 1124-26 State Capitol Bldg. Lincoln, Nebr. 68501

<u>State, Territory, or Country</u>	<u>Federal Veterinarian in Charge</u>	<u>State Official</u>
Nevada	E. M. Joneschild 1395 Haskell St., Suite B Reno, Nev. 89502	John L. O'Harra, Director P.O. Box 1209 Reno, Nev. 89502
New Hampshire	C. W. Wilder 204 Post Office Bldg. Augusta, Maine 04330	Clarence B. Dearborn Room 102, State House Annex Concord, N.H. 00331
New Jersey	R. L. Alkire P.O. Box 938 238 P.O. Bldg. Trenton, N.J. 08605	E. L. Brower John Fitch Plaza South Warren St. P.O. Box 1888 Trenton, N.J. 08605
New Mexico	R. L. Pyles P.O. Box 464 4010 New Fed. Office Bldg. 517 Gold Ave., S.W. Albuquerque, N. Mex. 87103	J. E. Kleck Box 1296 113 3rd St., S.W. Albuquerque, N. Mex. 87103
New York	Dale Suplee Building 8, State Campus Albany, N.Y. 12226	Grant S. Kaley, Director Building 8, State Campus Albany, N.Y. 12226
North Carolina	W. W. Harkins 320 Agricultural Bldg. Raleigh, N.C. 27603	H. J. Rollins P.O. Box 670 323 Agricultural Bldg. Raleigh, N.C. 27602
North Dakota	G. W. Spangler Post Office Box 639 220 E. Rosser Ave. Bismarck, N. Dak. 58502	Dean E. Flagg State Capitol Bldg. Bismarck, N. Dak. 58502
Ohio	Paul H. Kramer 438 Old Post Office Bldg. 3rd and State Sts. Columbus, Ohio 43215	Harry E. Goldstein Room 720, Ohio Dept. Bldg. 65 S. Front St. Columbus, Ohio 43215
Oklahoma	L. N. Miller 5411 New Federal Bldg. 200 Northwest 4 Oklahoma City, Okla. 73102	J. H. Brashear 122 State Capitol Bldg. Oklahoma City, Okla. 73102
Oregon	O. J. Halverson 1178 Chemeketa, N.E. Salem, Oreg. 97310	Glen B. Rea, Chief Veterinary Division Oregon Dept. of Agriculture Salem, Oreg. 97310

<u>State, Territory, or Country</u>	<u>Federal Veterinarian in Charge</u>	<u>State Official</u>
Pennsylvania	R. W. Boone P.O. Box 2065 2301 N. Cameron St. Harrisburg, Pa. 17108	J. C. Shook, Director Bureau of Animal Industry Room 408 2301 N. Cameron St. Harrisburg, Pa. 17108
Rhode Island	E. R. Coon 802 Customhouse Bldg. Boston, Mass. 02109	T. J. Grennan, Jr., Chief Division of Animal and Dairy Industry 365 State Office Bldg. Providence, R.I. 02903
South Carolina	C. E. Boyd, Director State-Federal Livestock Disease Eradication Program P.O. Box 1771 Columbia, S.C. 29202	C. E. Boyd (Same)
South Dakota	H. P. Honstead P.O. Box 758 U.S. Courthouse & Post Office Bldg. Pierre, S. Dak. 57501	M. D. Mitchell, Executive Secretary State Office Bldg. Pierre, S. Dak. 57501
Tennessee	W. W. Bird P.O. Box 909 548 U.S. Courthouse Nashville, Tenn. 37202	C. E. Kord P.O. Box 9039 Melrose Station Nashville, Tenn. 37202
Texas	J. L. Wilbur, Jr. 3rd Floor Western Republic Life Bldg. Austin, Tex. 78701	S. B. Walker Texas Animal Health Comm. New St. Office Bldg. Austin, Tex. 78701
Utah	J. E. Rasmussen P.O. Box 11429 5237 Federal Bldg. 125 S. State St. Salt Lake City, Utah 84111	Hendrik Versluis Room 412-A State Capitol Bldg. Salt Lake City, Utah 84114
Vermont	C. O. Finch State Agricultural Bldg. Montpelier, Vt. 05602	A. E. Janawicz, Director Vermont Livestock Division Dept. of Agriculture Montpelier, Vt. 05602
Virginia	E. C. Roukema 203 N. Governor St., Room 313 Richmond, Va. 23219	W. L. Bendix, Director 203 N. Governor St. Richmond, Va. 23219

State,
Territory,
or Country

Federal Veterinarian
in Charge

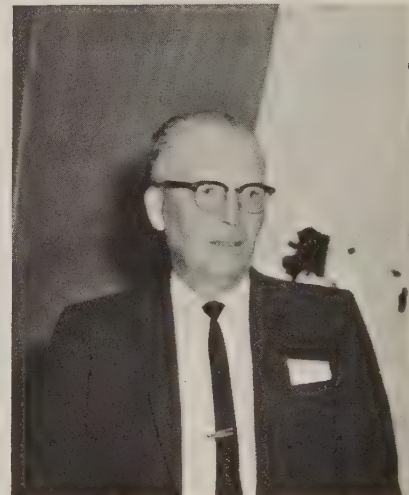
State Official

Washington	H. C. King P.O. Box 87 205 Union Ave. Bldg. Olympia, Wash. 98501	D. A. McGill, Supervisor Div. of Animal Industry P.O. Box 120 Olympia, Wash. 98501
West Virginia	L. G. Berg 3404 Federal Office Bldg. 500 Quarrier St. Charleston, W. Va. 25301	T. P. Siburt, Director Room E 102 Capitol Bldg. Charleston, W. Va. 25301
Wisconsin	A. A. Erdmann, Chief Vet. State-Federal Cooperative Program Hill Farms State Office Bldg. 4802 Sheboygan Ave. Madison, Wisc. 53702	A. A. Erdmann (Same)
Wyoming	W. M. Reynolds P.O. Box 825 2120 Capitol Ave. Room 8007 Cheyenne, Wyo. 82001	R. I. Port State Office Bldg. Cheyenne, Wyo. 82001
Mexico	R. S. Sharman, Co-Director Mexico-U.S. Commission for Prevention of Foot and Mouth Disease Apartado Postal M 2890 Mexico City, D. F., Mexico	(None)
Puerto Rico	F. E. Henderson P.O. Box 10149 Martinez and Sand Bldg. R. H. Todd Avenue Corner of Carmen Santurce, Puerto Rico 00908	Miguel A. Hernandez Agosto Sec. of Agriculture and Commerce P. R. Dept. of Agriculture and Commerce San Juan, Puerto Rico

PROPOSALS BY THE U.S. LIVESTOCK SANITARY ASSOCIATION
ON BRUCELLOSIS ERADICATION

by
A. O. Wilson*

It gives me much pleasure to present to you the report of the Brucellosis Committee. On October 26, 1965, an open meeting was held and the attendance was very gratifying. Tremendous interest was shown by industry regarding various phases in the development of our eradication program. These facts presented by those in attendance have been very helpful to the committee in preparing this report. We sincerely trust that this interest will continue and with your advice and recommendations our goal of brucellosis eradication will be attained at an early date.



Since our last meeting, 71 counties have been declared Modified Certified and 180 counties have qualified as Certified Brucellosis-Free Areas. Also, one State achieved a Modified Certified status and three States attained a Certified Brucellosis-Free status. At this time, 27 States have achieved the Modified Certified status. Of these, 7 States and the Virgin Islands have gone on to reach the ultimate goal -- a Brucellosis-Free status.

SEROLOGICAL AND AGE TOLERANCES FOR OFFICIAL VACCINATES

Last year the Committee considered a reduction or elimination of titre tolerances on official vaccinates effective Jan. 1, 1967. However, the evidence presented to this committee by Dr. Paul Nicoletti, Dr. Joe Hendricks and Dr. E. A. Schilf of the Animal Health Division of the U. S. Department of Agriculture indicated that a change at this time was not desirable. More work is to be done and when evidence is presented the Committee will give the proposal further consideration.

*A. O. Wilson, Hysham, Montana, Chairman; J. V. Smith, Hartford, Connecticut; J. R. Bishop, Atlanta, Indiana; J. S. Brenner, Grant, Montana; J. B. Finley, Encinal, Texas; D. E. Flagg, Bismarck, North Dakota; A. E. Janawicz, Montpelier, Vermont; W. D. Knox, Fort Atkinson, Wisconsin; R. Laramore, Gillette, Wyoming; C. A. Manthei, Ames, Iowa; J. L. McAuliff, Cortland, New York; S. H. McNutt, Madison, Wisconsin; W. A. Moynihan, Ottawa, Canada; C. K. Mingle, Hyattsville, Maryland; W. C. Tobin, Denver, Colorado; and H. G. Wixom, Sacramento, California.

The age tolerance was discussed at length. Evidence was presented to the committee that it would be advantageous to the eradication program to reduce the age of testing of officially vaccinated animals of the dairy breeds to 20 months and beef animals to 24 months.

RECOMMENDED AGES FOR VACCINATION

At the last meeting of the Committee it was recommended that all calves be vaccinated as near 4 months of age as possible. At this time we want to reemphasize this program. It was also stated that research would be conducted to determine if vaccination at ages earlier than 4 months would provide serviceable immunity. This work is now in progress and we are now waiting until results are available.

DISCONTINUING MARKET CATTLE TESTING OF DAIRY COWS

Although the milk ring test now provides reasonably effective coverage for the Nation's dairy herds, there is an urgent need for further expansion of surveillance testing of beef herds. The Committee believes that funds employed for blood testing dairy cows under the market cattle testing program could be used to better advantage in expanding market cattle testing of beef cows. Therefore, it is recommended that testing of dairy cows for brucellosis in the market cattle testing program be discontinued and that funds saved by this action be used for expanding the surveillance testing of non-milking herds.

It is further recommended that identification of dairy cattle be continued as a means of assisting the tuberculosis eradication program.

MILK PRESERVATION AND THE BRUCELLOSIS RING TEST

All States should be alerted to the possibility of milk samples being preserved by certain products, recently introduced, which can cause a positive Brucellosis Ring Test to be recorded negative. We ask the U. S. Department of Agriculture to keep all State officials advised of products which may affect BRT readings.

RECERTIFICATION

It is the recommendation of the Committee that the period of time for the blood testing of individual herds not adequately screened be extended from 18 months to 24 months for purpose of recertification.

It has also been recommended that consideration be given to the development of procedures that would provide for the continuous certification of areas where adequate screen tests are being maintained thereby eliminating anniversary dates.

FEDERAL FUNDS

Federal funds available for support of the cooperative State-Federal brucellosis eradication program continue to be inadequate to meet requests from all the cooperating States. In view of the importance of providing maximum

support possible to those States that are not yet certified and are conducting effective programs, the Committee recommends that the U. S. Department of Agriculture critically evaluates existing eradication programs in the non-certified States and give serious consideration to transferring support from the ineffective State programs to those States where effective programs need additional support.

MARKET CATTLE TESTING

The Committee has reviewed and endorses the following recommendation adopted by the National Brucellosis Committee at the February 1965 annual meeting in St. Paul, Minnesota:

Whereas, market cattle testing provides a valuable means of locating infected animals in non-lactating herds; and

Whereas, the market cattle testing program provides continuous surveillance of large numbers of herds at relatively low costs; and

Whereas, market cattle testing alleviates the need for on-ranch testing of negative herds;

Therefore, it is recommended that an increased effort be made to utilize the market cattle testing procedure to screen all eligible animals moving through marketing channels not already screened by the milk ring test.

Be it further recommended that the U. S. Department of Agriculture review with the officials of the States concerned with the USDA costs of vaccination in an effort to divert funds to an expanding Market Cattle Testing program for beef cattle.

THE BRUCELLOSIS CARD TEST

A report presented to your Committee indicates that the card test for cattle has merit as a screening test, particularly in range areas. We suggest the use of the test be limited to its screening function until an evaluation has been made by the Sub-committee on Research of the National Brucellosis Committee and its findings and recommendations made to the 1966 annual meeting of the U.S. Livestock Sanitary Association.

We commend the swine industry for its increasing use of the card test and urge its further expanded use.

SWINE BRUCELLOSIS

The Committee reviewed its previous recommendations on methods for the eradication of swine brucellosis and found them good.

Available information suggests that brucella infection in swine is gradually becoming less and less. This can be attributed to a number of factors, but especially it is the result of a better understanding of the infection and a desire on the part of producers not to live with so dangerous a disease --

a realization that one dare not risk exposure to such evil infection. Still, the decrease in swine brucellosis is not progressing as rapidly as the decrease in bovine brucellosis. As bovine brucellosis eradication nears completion, demands for more rapid eradication of swine brucellosis will multiply. In this instance swine producers may face unnecessarily harsh restrictions. This would be unfortunate because swine brucellosis is readily eradicated and could be accomplished now.

FREEDOM IN MOVEMENT OF CATTLE

This Committee in the past has taken the stand that there should be more freedom of movement of cattle originating in Certified Brucellosis Areas. We would like to reaffirm this stand and recommend at this time that all States that have Modified Certified Areas do all they can to make the movement of these cattle as unrestricted as possible.

INTER AREA MOVEMENT OF CATTLE

In last year's report, the Committee expressed its concern about the hazards associated with movements of animals from non-certified areas and urged those States that were not yet certified to increase their efforts in this direction. At that time, there was a total of 484 non-certified counties in 11 States. Currently, there are still 398 counties that have not yet qualified as Modified Certified Areas. In view of these continuing delays and the urgent need for protecting the vast majority (87 percent) of the Nation's counties that are well advanced in their efforts to eradicate brucellosis, this committee recommends that the federal government amend the regulations governing the interstate movement of livestock to provide that effective January 1, 1968 cattle moving into Modified Certified Brucellosis Areas and Certified Brucellosis-Free Areas must originate from Modified Certified Brucellosis Areas or Certified Brucellosis-Free Areas. It is further recommended that each State adopt similar regulations controlling interstate movement of cattle.

SUPPORT OF MARKET CATTLE TESTING

The Market Cattle Testing procedure is one of the most efficient methods of implementing and maintaining a constant surveillance in disease control particularly regarding brucellosis and tuberculosis.

The Committee wishes to commend the packers, meat inspectors, and market people for their untiring and dedicated efforts which have produced great accomplishments in the area of brucellosis eradication.

THE COMPLEMENT FIXATION TEST IN DIAGNOSIS OF BOVINE BRUCELLOSIS

by
D. T. Berman and J. Hendricks

In cooperative studies by the Departments of Veterinary Science and Bacteriology, the Animal Health Division and Animal Disease and Parasite Research Divisions and the Wisconsin Department of Agriculture, we have been studying the Complement Fixation test intensively for the past $3\frac{1}{2}$ years. After developing a standard method for the test, we have applied it to over 60,000 serum samples. In many instances, repeated tests were performed on sera from the same animals and the results have been related to vaccination status, infection status and to results with the other supplementary tests.

In our hands the standardized test has been the most effective of the supplementary tests for the detection of infected animals. In no case with isolations from over 200 cattle, was *B. abortus* recovered from an animal with a C F titer of less than + at 1:20. Over 90% of the proved infected animals had C F titers of + at 1:40 or higher.

The C F test becomes negative (less than 1:20 with our system) before the agglutination test in either calves or sexually mature cattle vaccinated with Strain 19.

In recently infected animals in infected herds, animals with suspicious titers on the standard tube agglutination test had positive Complement Fixation reaction before the tubes test became positive.

In infected herds the results of the C F test were more clearly related to Bacteriological findings on suspects than were the 65° C heat test, the revanol or mercapto ethanal inhibition tests. The C F test condemned fewer uninfected suspects and more properly identified infected ones.

For example, among 11,930 animals tested in proved infected herds, the 65° C H.I.T. test identified 233 as reactors which were identified as negative by the C F test. The C F test identified 52 as reactors which were negative on the H.I.T. test. We have isolated *B. abortus* from 80.7% of animals with that C F reaction.

We propose that a standardized C F test be adopted as a regular part of the eradication program in areas which are now modified certified brucellosis free.

RECOMMENDATIONS OF THE NATIONAL BRUCELLOSIS COMMITTEE

by
S. H. McNutt, Chairman*

The National Brucellosis Committee recommends that:

The Federal appropriations for the eradication of brucellosis not be reduced.

In order that adequate information is available to completely eradicate brucellosis from the livestock population and thereby maintain and provide for the increasing demand for meat in the world markets that Federal funds for brucellosis research be restored and augmented.

A committee be appointed by Livestock Conservation, Inc., to make a thorough study and to arrive at a practical means of maintaining the identity of animals, both swine and cattle, from their premises of origin through marketing and slaughter.

A swine brucellosis eradication program be developed on a State by State basis comparable to the cattle brucellosis eradication program.

Livestock Conservation, Inc., is requested to make a survey to determine the adequacy of State laws and regulations and the availability of State funds to initiate an intensive swine brucellosis eradication program.

Dr. C. K. Mingle has recently retired as Senior Staff Veterinarian of Cattle Diseases, with the U. S. Department of Agriculture's Agricultural Research Service after many years of distinguished service to the livestock industry and the general public in bringing about a sharp reduction in brucellosis in livestock and man.

As a result, the National Brucellosis Committee during this annual meeting wishes to express to Dr. Mingle its very great appreciation for his unequalled and dedicated service.

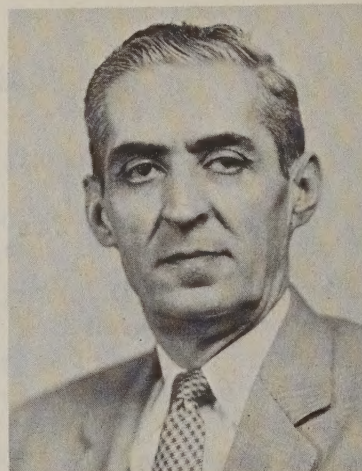
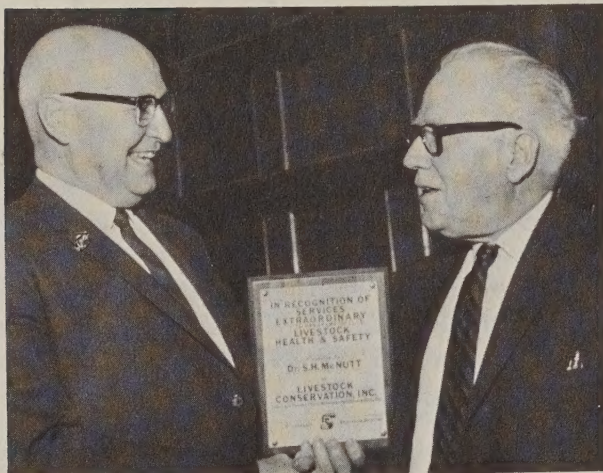
Dr. Mingle has brought distinction and honor to the United States. He is internationally known and respected by technical colleges in many Nations for his technical competence in brucellosis. He served on a committee of the American Veterinary Medical Association which accredited graduates of foreign universities who came to the United States to live and practice.

Dr. Mingle represents the highest type of public servant, completely dedicated, highly competent in his field, with a broad understanding of all segments of the livestock industry. He has the unique ability to work with all groups in developing sound disease eradication programs and in helping to implement those programs. Tremendous progress in the eradication of brucellosis is a result of his service.

We wish him and Mrs. Mingle many years of enjoyment and good health.

*Dr. McNutt is Professor of Veterinary Science, University of Wisconsin, College of Agriculture, Madison, Wisconsin.

DISTINGUISHED SERVICE PLAQUES AWARDED



Dr. S. H. McNutt and Dr. C. K. Mingle, leaders in the Cooperative State-Federal Brucellosis Eradication effort were honored by the Livestock Conservation Incorporated with citations for distinguished service.

(Above, left) Harvey Dastrup, left, presents Dr. McNutt with a Distinguished Service Plaque, recognizing the long-time chairman of the National Brucellosis Committee for his leadership in animal disease work, particularly in hog cholera and brucellosis. Dr. McNutt is Professor, Department of Veterinary Science, University of Wisconsin.

(Above, right) Dr. C. K. Mingle who recently retired as Senior Staff Veterinarian in Charge of Cattle Diseases for the U. S. Department of Agriculture's Agricultural Research Service, was recognized for his leadership in brucellosis eradication. Dr. Mingle joined the USDA in 1937 and devoted his entire career to brucellosis research and eradication. In 1956, he was given the responsibility of directing the Federal aspects of the National Brucellosis Eradication program. During this period, two out of every three of the Nation's counties reduced the incidence of brucellosis to less than one percent and attained a Modified Certified status.

NOMINATING COMMITTEE REPORT

The nominating Committee of the National Brucellosis Committee composed of N. B. McCullough, Bob Laramore and A. A. Erdmann presented the following slate of officers:

Officers

Chairman: S. H. McNutt
Vice-Chairman: C. G. Scruggs
Secretary: R. H. Dastrup
Assistant Secretary: Mike Bay

Board of Directors (1966-1969)

Lyle V. Springer
Jean E. Smith
Leo Welder
R. E. Sneddon
Paul Zillman
M. D. Mitchell
W. D. Knox
C. F. Neuman

Executive Committee

J. W. Ralph Bishop
R. E. Sneddon
W. D. Knox
Bob Laramore
C. A. Manthei
E. A. Schilf
J. H. Steele
Herman Aaberg
Frank H. Baker